

What is claimed is:

1. A multichannel signal amplitude equalizer comprising:

a multichannel signal input for carrying an input signal with an input bandwidth spanning multiple communication channels;

a multichannel equalizer connected to the multichannel signal input and including a signal output; and

an equalizer control input coupled to the multichannel equalizer for regulating the multichannel equalizer, whereby the signal output carries, as an output signal, the input signal reduced in dynamic range.

2. The multichannel signal amplitude equalizer of claim 1, further comprising an analog to digital (A/D) converter coupled to the multichannel equalizer for digitizing the output signal, wherein the A/D converter is characterized by an A/D converter dynamic range at least equal to an output signal dynamic range.

3. The multichannel signal amplitude equalizer of claim 2, wherein the A/D converter is characterized by an A/D converter bandwidth at least equal to the input bandwidth.

4. The multichannel signal amplitude equalizer of claim 1, wherein the multichannel equalizer comprises at least one transversal filter.

5. The multichannel signal amplitude equalizer of claim 1, wherein the multichannel equalizer comprises at least one variable amplitude and phase module.

6. The multichannel signal amplitude equalizer of claim 1, wherein the wherein the multichannel equalizer comprises at least first and second channel attenuators.

7. The multichannel signal amplitude equalizer of claim 1, wherein each channel of the multiple communication channels is a Global System Mobile (GSM) channel.

8. The multichannel signal amplitude equalizer of claim 1, wherein each channel of the multiple communication channels is a North American Interim Standard (IS) channel.

9. The multichannel signal amplitude equalizer of claim 1, further comprising a first local oscillator for

downconverting a received signal, and a first bandpass filter spanning the input bandwidth and coupled to the first local oscillator and the multichannel signal input.

10. The multichannel signal amplitude equalizer of claim 1, further comprising a second local oscillator coupled to the signal output for downconverting the output signal, and a second bandpass filter spanning the input bandwidth and coupled to the first analog to digital converter.

11. The multichannel signal amplitude equalizer of claim 1, wherein the input signal is a radio frequency input signal.

12. A method for equalizing signal amplitude in an input signal, the method comprising:

obtaining an input signal with an input bandwidth spanning multiple communication channels;

coupling the input signal through a multichannel equalizer; and

reducing input signal dynamic range using the multichannel equalizer, thereby generating an output signal on a signal output of the multichannel equalizer.

13. A method according to claim 12, wherein reducing further comprises reducing input signal dynamic range to be no greater than a predetermined dynamic range.

14. A method according to claim 13, further comprising digitizing the output signal with an analog to digital (A/D) converter, and wherein reducing further comprises reducing input signal dynamic range to be no greater than a predetermined dynamic range of the A/D converter.

15. A method according to claim 13, wherein obtaining comprises obtaining a radio frequency input signal.

16. A method according to claim 12, wherein obtaining comprises obtaining a radio frequency input signal with an input bandwidth spanning multiple wireless communication channels.

17. A method according to claim 16, wherein obtaining comprises obtaining at least one of a radio frequency input signal with an input bandwidth spanning at least one of multiple Global System Mobile (GSM) communication channels and multiple North American Interim Standard (IS) communication channels.

18. A method according to claim 12, further comprising producing the input signal by first downconverting and first bandpass filtering a received signal.

19. A method according to claim 18, further comprising preparing the output signal for digitization by second downconverting and second bandpass filtering the output signal.

20. A multichannel receiver comprising:

a multichannel signal input for carrying an input signal with an input bandwidth spanning multiple communication channels;

a multichannel equalizer connected to the multichannel signal input and including a signal output;

an equalizer control input coupled to the multichannel equalizer for regulating the multichannel equalizer, whereby the signal output carries, as an output signal, the input signal reduced in dynamic range; and

a channelizer coupled to the analog to digital converting and comprising a plurality of recovered-channel outputs.

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21. The multichannel receiver of claim 20, further comprising a measurement circuit coupled to the recovered-channel outputs for measuring an output level of a recovered-channel signal.

22. The multichannel receiver of claim 21, wherein the measurement circuit is coupled to the equalizer control input.

23. The multichannel receiver of claim 21, wherein the output level is average power in the recovered-channel signal.

24. The multichannel receiver of claim 22, wherein the measurement circuit is adapted to output an attenuator regulation signal on the equalizer control input when the output level exceeds a predetermined threshold.

25. The multichannel receiver of claim 20, wherein the multichannel equalizer comprises at least one of a transversal filter and a variable phase and amplitude module.

26. The multichannel receiver of claim 20, wherein the multichannel equalizer comprises a multistep attenuator in at least one channel.